CONTENTS OF PREVIOUS VOLUMES

VOLUME 1

The influence of chemisorption on the electrical conductivity of thin semiconductors
by T. A. Goodwin and P. Mark

The quantum theory of adsorption on metal surfaces
by K. F. Wojciechowski

Surface phenomena associated with the semiconductor/electrolyte interface
by S. R. Morrison

A bibliography of low energy electron diffraction and auger electron spectroscopy
by T. W. Hass, G. J. Dooley III, J. T. Grant, A. G. Jackson and M. P. Hooker

Surface ionization and its applications
by N. I. Ionov

Short-term interactions between cell surfaces
by L. Weiss and J. P. Harlos

VOLUME 2

Electron photoemission at a metal/electrolyte solution interface
by A. M. Brodsky and Y. V. Pleskov

Fast-electron spectroscopy of collective excitations in solids
by A. A. Lucas and M. Sunjic

The study of surface reactions in biological systems by ellipsometry
by G. Poste and C. Moss

Surface dynamics of magnetic materials
by T. Wolfram and R. E. Dewames

VOLUME 3

Thermal desorption kinetics of chemisorbed gases
by L. A. Petermann

Kinetics of hillock and island formations during annealing of thin silver films
by A. E. B. Presland, G. L. Price and D. L. Trimm

Surface phenomena in solids during deformation and fracture processes
by P. A. Rehbinder and E. D. Shchukin

Surface structure of simple fluids
by S. Toxvaerd

Monolayers of lipids in relation to membranes
by D. O. Shah

X-Ray diffraction studies of membranes.
by Y. K. Levine

VOLUME 4

Field ion microscopy, field ionization, and field evaporation
by E. W. Müller and T. T. Tsong

Phospholipid vesicles (liposomes) as models for biological membranes: their properties and interactions with cholesterol and proteins
by D. Papahadjopoulos and H. K. Kimelberg

Lattice dynamics of crystal surfaces
by R. F. Wallis

VOLUME 5

Studies of adsorption by electron-stimulated desorption and flash-filament methods
by V. N. Ageev and N. I. Ionov

Statistical thermodynamics of physisorption
by J. G. Dash

Kroning-Penney model for surface states
by M. Steslicka

Thermal accommodation
by F. O. Goodman

Molecular beam scattering from solid surfaces
by S. L. Bernasek and G. A. Somorjai

Can an electron feel the size and shape of its box?
by K. F. Wojciechowski

VOLUME 6

Theory of charge transfer kinetics at solid-polar liquid interfaces
by R. R. Dogonadze and A. M. Kuznetsov

Interactions between physically adsorbed molecules
by T. Takaishi

Bibliography of electronic phenomena in chemisorption and catalysis on semiconductors
by O. Peshev, V. Malakhov and Th. Wolkenstein

Organic crystal-electrolyte interface
by F. Lohmann and W. Mehl

Theory of the photoadsorption effect in semiconductors
by Th. Wolkenstein

VOLUME 7

Theory of low-energy diffraction
by S. Y. Tong

Sputtering-surface changes induced by ion bombardment
by B. Navinsek

Glow discharge sputtering
by W. D. Westwood

Theories of photoemission from metal surfaces
by M. L. Glasser and A. Baochi

Photoelectron spectra of adsorbed species on tungsten
by E. W. Plummer, B. J. Waclawski, T. V. Vorburger and C. E. Kuyatt

VOLUME 8

Van der Waals interactions between surfaces of biological interest
by S. Nir

Liquid-liquid interfaces: in isolation and interaction
by R. Aveyard and B. Vincent

Quantum theory of adsorption of isolated adatoms
by A. M. Brodskiy and M. I. Urbakh

Electron stimulated desorption: a critical review
by M. J. Drinkwine and D. Lichtman

Interaction of low-energy electrons with surface lattice vibrations
by D. L. Mills

Electronic states at the silicon-silicon dioxide interface
by Y. C. Cheng

Imaging atom-probe mass spectroscopy
by J. A. Panitz

VOLUME 9

Chemisorption on metals
by J. P. Muscat and D. M. Newns

Surface studies with the vacuum microbalance
by A. W. Czanderna and R. Vasofsky

Morphology and etching processes on macroscopic metal catalysts
by M. Flytzani-Stephanopoulos and L. D. Schmidt

Electrophotographic processes in ZnO layers
by H. Kiess

Ultraviolet photoemission studies of molecular adsorption on oxide surfaces
by V. E. Henrich

Transition metal compound surfaces
by M. A. Langell and S. L. Bernasek

Theory of surface states in spin wave resonance
by H. Puszkarski

VOLUME 10

Structure and reactivity for GaAs surfaces
by W. Ranke and K. Jacobi

Laser Doppler methods in electrophoresis
by Egiduus E. Uzgiris

Quantitative investigations of atomic processes on metal surfaces at atomic resolution
by T. T. Tsong

Wave-mechanical theory of field ionization and field-ion energy distributions
by Richard G. Forbes

Electrical and mechanical properties of thin metal films: Size effects
by F. Warkusz

Formation of excited states by ion impact on surfaces
by E. W. Thomas

VOLUME 11

Electronic structure of point defects on insulator surfaces
by V. M. Bermudez

Adhesion and detachment of biological cells in vitro
by M. A. Hubbe

Surface composition of alloys
by M. J. Kelley and V. Ponec

The classification of order-disorder transitions on surfaces
by M. Schick

Work function of metals: relation between theory and experiment
by A. Kiejna and K. F. Wojciechowski

VOLUME 12

Surface films and metallurgy related to lubrication and wear
by D. H. BUCKLEY

Electron energy levels in semiconductor electrochemistry
by W. P. GOMES and F. CARDON

Physics of cell adhesion
by P. BONGRAND, C. CAPO and R. DEPIEDS

Surface electromagnetic fields
by P. J. FEIBELMAN

VOLUME 13

Aggregation and fusion of phospholipid vesicles
by S. NIR, J. BENTZ, J. WILSCHUT, and N. DUZGUNES

The biochemistry of cell-adhesion
by J. G. EDWARDS

Recent progress in the theory of the electric double layer
by D. HENDERSON, L. BLUM and M. LOZADA-CASSOU

Ultraviolet bremsstrahlung spectroscopy
by V. DOSE

Atomic beam scattering from single crystal surfaces
by D. FRANKL

VOLUME 14

Physical adsorption and surface plasmons
by M. SCHMEITS and A. A. LUCAS

Effects of dissolution on plastic deformation and cracking of metals
by R. W. REVIE

Theory of electronic structure of oxide surfaces
by M. TSUKADA, H. ADACHI, and C. SATOKO

The nature of transition-metal-oxide surfaces
by V. E. HENRICH

Characterization of Si/SiO_2 interface defects by electronic spin resonance
by EDWARD H. POINDEXTER and PHILIP J. CAPLAN

Dynamic interactions between approaching surfaces of biological interest
by DIMITER S. DIMITROV

VOLUME 15

Surface electronic excitations and dynamic spectral properties of adsorbates
by B. GUMHALTER

Recent developments in ESR techniques and results for semiconductor surface regions
by D. HANEMAN

The influence of the microscopic structure of surfaces on the optical properties of metals
by A. M. BRODSKY and M. I. URBAKH

Bioelectrochemistry of cell surfaces
by K. DOLOWY

Hydrodynamics of interaction of particles (including cells) with surfaces
by M. DUSZYK and J. DOROSZEWSKI

Solar energy conversion in photoelectrochemical cells with semiconductor electrodes
by YU. V. PLESKOV

VOLUME 16

Electrochemical surface science: the study of monolayers of ad-atoms and solvent molecules at charged metal interfaces
by B. E. CONWAY

Theory of laser-stimulated surface processes
by T. F. GEORGE, J. LIN, A. C. BERI, and W. C. MURPHY

Angle-resolved x-ray photoelectron spectroscopy
by CHARLES S. FADLEY

Elastic and flexoelectric aspects of out-of-plane fluctuations in biological and model membranes
by A. G. PETROV and I. BIVAS

VOLUME 17

Electronic theory of solid surfaces
by V. L. BONCH-BRUEVICH and V. B. SANDOMIRSKY

Electron transfer processes with excited molecules at semiconductor electrodes
by R. MEMMING

Surface processes in hydrogen permeation through metal membranes
by T. N. KOMPANIETS and A. A. KURDYUMOV

Surface enhanced spectroscopy
by H. METIU

VOLUME 18

Light scattering from magnetic surface excitations
by P. A. GRUNBERG

Embedded cluster model studies of impurities at metal surfaces
by J.-P. MUSCAT

Landau theory of second-order phase transitions on solid surfaces
by I. P. IPATOVA and YU.E. KITAEV

Compilation of inelastic electron tunnelling spectra of molecules chemisorbed on metal oxides
by D. G. WALMSLEY and J. L. TOMLIN

VOLUME 19

Adsorption and electrochemical processes on the interface between two immiscible liquids
by L. I. BOGUSLAVSKY

Planar bilayer lipid membranes
by H. TI TIEN

Infrared studies of chemisorbed layer on single crystals
by P. HOLLINS and J. PRITCHARD

Mechanism of skeletal reactions of hydrocarbon on metals
by E. H. VAN BROEKHOVEN and V. PONEC

VOLUME 20

A tribute to Professor Revaz R. Dogonadze: The man and his works
by A. M. KUZNETSOV

Chemisorption and charge transfer at ionic semiconductor surfaces: Implications in designing gas sensors
by W. GOPEL

Reconstructions and relaxations on metal surfaces
by J. E. INGLESFIELD

The characterization of iron surfaces
by A. J. H. M. KOCK and J. M. GEUS

Nonuniform lipid distribution in membranes
by B. G. TENCHOV

VOLUME 21

In Memoriam: Professor Th. Wolkenstein
by V. L. BONCH-BRUEVICH and V. B. SANDOMIRSKY

Adsorption on semiconductor electrodes
by H. YONEYAMA and G. B. HOFLUND

Theory of incomplete crystals, surfaces, defects, interfaces and layered structures
by F. GARCIA-MOLINER and V. R. VELASCO

Theory of non-dissociative ortho-para conversion on magnetic surfaces
by Y. ISHII

Electron microsopy of surface structure
by J. M. COWLEY

Time-dependent Newns-Anderson model
by A. YOSHIMORI and K. MAKOSHI

Inverse photoemission from metal surfaces
by N. V. SMITH and D. P. WOODRUFF

VOLUME 22

Resonant response of a bare metallic grating to S-polarized light
by A. WIRGIN and A. A. MARADUDIN

A multitechnique approach to chemisorption studies: The N_2-Ni(110) system
by M. GOLZE, M. GRUNZE and W. UNERTL

Vibrational lineshapes of adsorbates on solid surfaces
by H. UEBA

New models for the structure of the electrochemical interface
by W. SCHMICKLER and D. HENDERSON

VOLUME 23

In Memory of Michael M. Vorob'ev
by V.J. FELDMAN and M.B. PARTENSKII

Surface electron screening theory and its applications to metal-electrolyte interfaces
by V.J. FELDMAN, M.B. PARTENSKII and M.M. VOROB'EV

A tabulation and classification of the structures of clean solid surfaces and of adsorbed atomic and molecular monolayers as determined from low energy electron diffraction patterns
by H. OHTANI, C.-T. KAO, M.A. VAN HOVE and G.A. SOMORJAI

Membrane electrochemistry
P. KRYSINSKI and H. TI TIEN

VOLUME 24
Optical probes of organic thin films: Photons-in, photons-out
by M.K. DEBE

VOLUME 25 & 26
Quantum theory of surface phenomena
(Professor J. Koutecky's 65th birthday)
Part I
1. Clean surfaces
2. Chemisorption
Part II
3. Surface dynamical processes
4. Interfaces
5. Clusters

VOLUME 27
Progress in Surface Science 1968-1988
by S.G. DAVISON

Application of scaling to the study of polymers at interfaces
by E. BOUCHAUD, L. AUVRAY, J.P. COTTON, M. DAOUD, B. FARNOUX and G. JANNINK

Halogen adsorption on solid surfaces
by R.G. JONES

Multivalencies of adatoms on metal surfaces
by K. SHINJO

Structural analysis of surfaces by LEED
by K. HEINZ

VOLUME 28
Second harmonic generation studies of interfacial structure and dynamics
by G.L. RICHMOND, J.M. ROBINSON and V.L. SHANNON

Electronic properties of metals chemisorbed on semiconductor surface and metal/semiconductor interfaces
by XIE XIDE and ZHANG KAIMING

Surface ionization of organic compounds and its applications
by U.KH. RASULEV and E. YA. ZANDBERG

VOLUME 29
Interfacial properties of semiconducting transition metal chalcogenides
by W. JAEGERMANN and H. TRIBUTSCH

Diffraction methods in the spectroscopy of thin films in the vicinity of resonances
by V.M. AGRANOVICH and T.A. LESKOVA

VOLUME 30
Membrane photophysics and photochemistry
by H. TI TIEN

Adsorbate-induced restructuring of surfaces
by G.A. SOMORJAI and M.A. VAN HOVE

Electrocapillary phenomena at the interface between two immiscible liquids
V.S. MARKIN and A.G. VOLKOV

VOLUME 31
Gas adsorption on phthalocyanines and its effects on electrical properties
by JOHN D. WRIGHT

Alkali-metal adsorption on metals
By T. ARUGA and Y. MURATA

Elastic and inelastic electron tunnelling
by J.L. TOMLIN

VOLUME 32
Recent developments in angle-resolved electron-stimulated desorption of ions from surfaces
by RICHARD H. STULEN

Effect of surface phenomena in solids on surface acoustic waves
by VICTOR V. KRYLOV

Ion beam modification of metals:
Compositional and microstructural changes
by GARY S. WAS

The preparation of thin ordered transition metal oxide films on metal single crystals for surface science studies
by G.H. VURENS, M. SALMERON and G.A. SOMORJAI

VOLUME 33

In Memoriam: Mojmir Tomasek
by STEPAN PICK and RUDOLF POLAK

Field Ion-Scanning Tunneling Microscopy
by T. SAKURAI, T. HASHIZUME, I. KAMIYA, Y. HASEGAWA, N. SANO, H.W. PICKERING and A. SAKAI

Optical Properties of Microrough Metal Surfaces
by A.M. BRODSKY and M.I. URBAKH

The Optics of Surface and Guided Wave Polaritons
by A.A. MARADUDIN, R.F. WALLIS and G.I. STEGEMAN

SEND FOR A FREE SAMPLE COPY OF...

CORROSION SCIENCE

The Journal on Environmental Degradation of Materials and its Control
An Official Journal of the Institution of Corrosion Science & Technology

Editor-in-Chief: **J C SCULLY,** *School of Materials, Houldsworth School of Applied Science, University of Leeds, Leeds LS2 9JT, UK*

Occurrence of corrosion and its practical control is an area of study covering a wide range of scientific knowledge. *Corrosion Science* provides a medium for the communication of ideas, developments and research in all aspects of this field.
The scope of this international journal is very extensive. Published papers range from the highly theoretical to the essentially practical and cover such areas as high temperature oxidation, passivity, anodic oxidation, biochemical corrosion, stress corrosion cracking, and mechanisms and methods of corrosion control.
This journal publishes original papers and critical reviews in the fields of pure and applied corrosion, the degradation of materials, and both surface science and engineering. It forms an important link between metallurgists, materials scientists and all investigators of corrosion and degradation phenomena.

A Selection of Papers
T N RHYS-JONES (UK), Coatings for blade and vane applications in gas turbines.
G RONDELLI, B VICENTINI & A CIGADA (Italy), The corrosion behaviour of nickel titanium shape memory alloys.
F H STOTT, J E BREAKELL & R C NEWMAN (UK), The corrosive wear of cast iron under potentiostatically-controlled conditions in sulphuric acid solutions.
V C NONINSKI (Bulgaria), Corrosion studies with the self-cleaning rotating electrode (SRE).
N R SMART, P M SCOTT & R P M PROCTER (UK), Repassivation kinetics and stress corrosion of mild steel in phosphate solutions.
Y MEAS & J FUJIOKA (Mexico), The determination of the corrosion rate in cathodically protected systems-I. Theory.

Indexed/Abstracted in: *Current Contents, Chemical Abstracts, BMT Abstracts, Corrosion Abstracts, Engng Ind. Monthly & Author Index, INSPEC Database, Metals Abstracts, PASCAL-CNRS Database, Petroleum Abstracts, Aqua Abstr, Cam Sci Abstr, Chem Eng Abstr, Chem Haz in Indus, Edi Metal Abstr, Environ Per Bibl*

(00260)
1991: Volume 32 (12 issues)
Annual subscription (1991) **DM 1070.00**
Two-year rate (1991/92) **DM 2033.00**
ISSN: 0010-938X

PERGAMON PRESS
Member of Maxwell Macmillan Pergamon Publishing Corporation

Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford NY 10523, USA

Advertising rate card available on request. Back issues and current subscriptions are also available in microform. Prices shown include postage and insurance. German Mark (DM) prices quoted apply in Europe, Africa, Asia/Australasia (with the exception of Japan). For the rest of the world including Japan apply to the nearest Pergamon office. Prices and proposed publication dates are subject to change without prior notice.

SEND FOR A FREE SAMPLE COPY OF...

JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS

Editor-in-Chief: **J R WILLIS,** *School of Mathematical Sciences, University of Bath, Claverton Down, Bath BA2 7AY, UK*

The journal brings together and relates research by mathematicians, engineers, metallurgists and physicists on the properties of constructional materials, giving equal coverage to theory and experiment; it is particularly concerned with the development and application of fundamental ideas bearing on the connections between continuum and micro-structural properties of materials and on the solution of practically significant problems.
The scope of the journal is extensive and its main concern is with the physical properties and mechanical behaviour of materials as diverse as metals, soils, glasses and ceramics, rubbers, polymers and composites.

A Selection of Papers
A F BOWER & M ORTIZ (USA), Solution of three-dimensional crack problems by a finite perturbation method.
X MARKENSCOFF & L NI (USA), The singular nature of the stress field near an arbitrarily moving dislocation loop.
G ALPA & L GAMBAROTTA (Italy), Probabilistic failure criterion for cohesionless frictional materials.
T C T TING (USA), Interface cracks in anisotropic bimaterials.
P GUDMUNDSON (Sweden), Anisotropic microcrack nucleation in brittle materials.
W J DRUGAN & Y SHEN (USA), Finite deformation analysis of restrictions on moving strong discontinuity surfaces in elastic-plastic materials: quasi-static and dynamic deformations.

Indexed/Abstracted in: *Current Contents, INSPEC, PASCAL/CNRS Database, Appl Mech Rev, Mechanics, Cam Sci Abstr, Math R*

(00220)
1991: Volume 39 (8 issues)
Annual subscription (1991) **DM 990.00**
Two-year rate (1991/92) **DM 1881.00**
ISSN: 0022-5096

PERGAMON PRESS
Member of Maxwell Macmillan Pergamon Publishing Corporation

Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford NY 10523, USA

Advertising rate card available on request. Back issues and current subscriptions are also available in microform. Prices shown include postage and insurance. German Mark (DM) prices quoted apply in Europe, Africa, Asia/Australasia (with the exception of Japan). For the rest of the world including Japan apply to the nearest Pergamon office. Prices and proposed publication dates are subject to change without prior notice.

SEND FOR A FREE SAMPLE COPY OF...

INTERNATIONAL JOURNAL OF PLASTICITY

Editor-in-Chief: **AKHTAR S KHAN,** *School of Aerospace, Mechanical and Nuclear Engineering, The University of Oklahoma, 865 Asp Avenue, Room 212, Norman, OK 73019, USA*
Co-Editors: **JAMES F BELL,** *Department of Mechanics, Johns Hopkins University, Latrobe Hall, Baltimore, MD 21218, USA* and **NICOLAE CRISTESCU,** *Department of Mechanics, University of Bucharest, Str. Academiei, 14, Bucharest 70109, Romania*

The *International Journal of Plasticity* reports original research on all aspects of plastic deformation of isotropic as well as anisotropic solids, including the thermodynamics of plasticity and fracture, continuum theory, and macroscopic as well as microscopic phenomena. The topics of interest include plastic behavior of single crystals and polycrystalline metals, ceramics, rocks and soils, composites and polymers, as well as plasticity aspects of failure and fracture mechanics. Significant experimental, numerical and theoretical contributions advancing the understanding of plastic behavior of solids are most welcome, together with studies relating microscopic to macroscopic behavior of solids. The journal will contain research papers, review articles, research notes, letters to the editor, and announcements of conferences and symposia.

A Selection of Papers
Y TOI & S N ATLURI (USA), Finite element analysis of static and dynamic fracture of brittle microcracking solids. Part 2: stationary and growing macro-cracks under static loading.
J F BELL (USA), Material objectivity in an experimentally based incremental theory of large finite plastic strain.
N OHNO, M KAWABATA & J NAGANUMA (Japan), Aging effects on monotonic, stress-paused, and alternating creep of type 304 stainless steel.
H S SELLERS & A S DOUGLAS (USA), A physical theory of finite plasticity from a theoretical perspective.
K C VALANIS (Canada), Back stress and Jaumann rates in finite plasticity.
A FRANCHI, F GENNA & F PATERLINI (Italy), Research note on quasi-convexity of the yield function and its relation to Drucker's postulate.

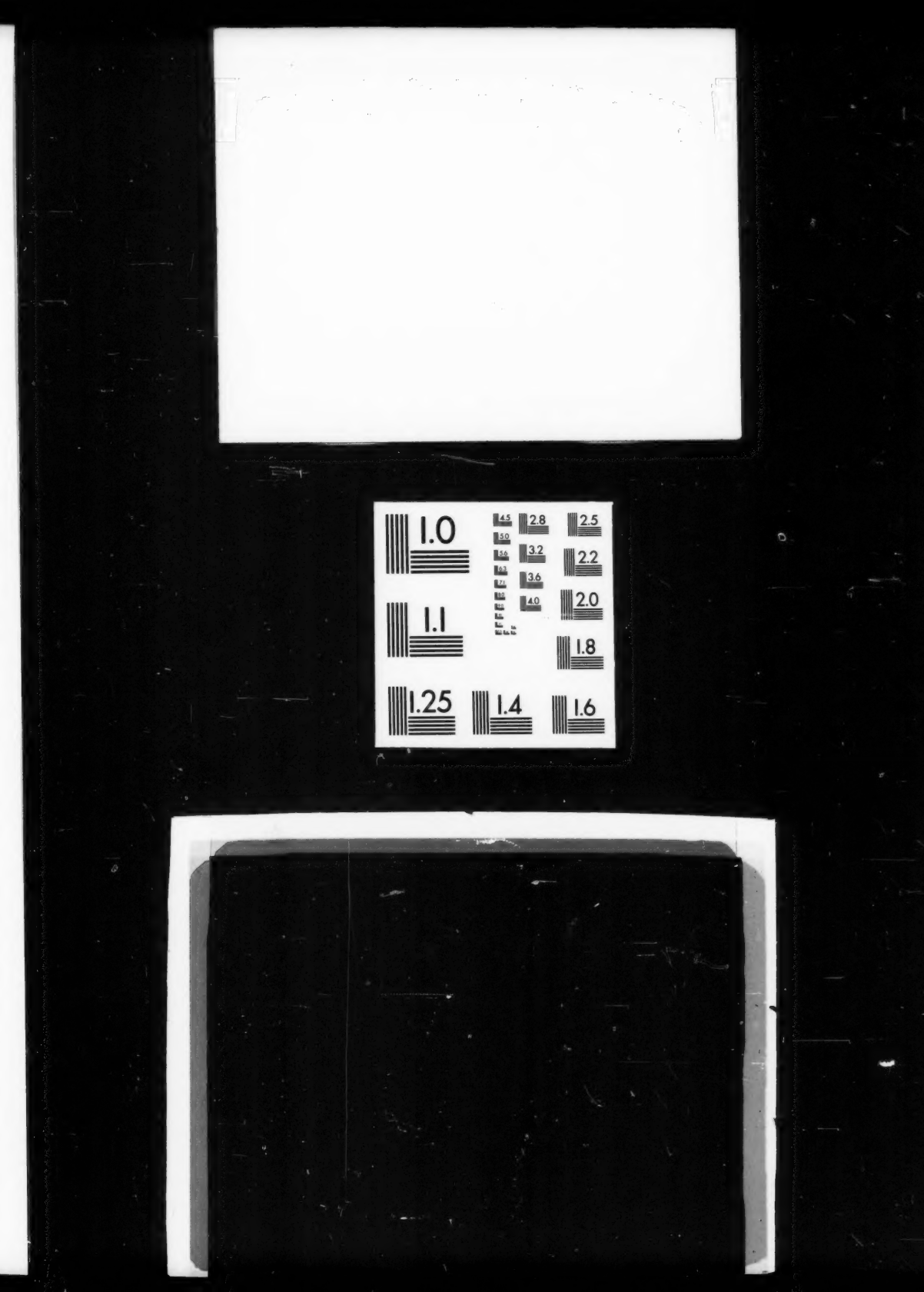
Indexed/Abstracted in: *Current Contents, Chemical Abstracts, International Aerospace Abstracts, Applied Mech Rev, Mechanics, Science Citation Index, IBZ & IBA, Cam Sci Abstr, Eng Inform, Eng Ind*

(00762)
1991: Volume 7 (8 issues)
Annual subscription (1991) **DM 520.00**
Two-year rate (1991/92) **DM 988.00**
ISSN: 0749-6419

PERGAMON PRESS
Member of Maxwell Macmillan Pergamon Publishing Corporation

Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford NY 10523, USA

Advertising rate card available on request. Back issues and current subscriptions are also available in microform. Prices shown include postage and insurance. German Mark (DM) prices quoted apply in Europe, Africa, Asia/Australasia (with the exception of Japan). For the rest of the world including Japan apply to the nearest Pergamon office. Prices and proposed publication dates are subject to change without prior notice.


1.0
1.1
1.25
1.4
1.6
2.8
2.5
3.2
2.2
3.6
2.0
4.0
1.8